

217/782-2113

CONSTRUCTION PERMIT - NSPS SOURCE

PERMITTEE

Saint-Gobain Containers, Inc.
Attn: Joe Drago
1200 North Logan Street
Lincoln, Illinois 62656

Application No.: 05020040

I.D. No.: 107035AAX

Applicant's Designation:

Date Received: February 14, 2005

Subject: Furnace Rebuild Project

Date Issued: TO BE DETERMINED

Location: 1200 North Logan Street, Lincoln

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a furnace rebuild project and an emergency generator as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

1.1 Unit: Furnace

1.1.1 Description

Saint-Gobain operates a glass container plant. In this project, the glass furnace will be altered by replacing or reconfiguring numerous components including burners, batch delivery system, charger, melter bottom, doghouse, throat, electrodes, refiner/distributor, and instrumentation. Because these alterations have the potential to increase the capacity and the emissions of the furnace, the project qualifies as a modification of the furnace.

1.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Furnace	Natural Gas-fired Furnace With Electric Boost	None

1.1.3 Applicable Provisions and Regulations

- a. An "affected furnace" for the purpose of these unit-specific conditions, is the rebuilt furnace described in Conditions 1.1.1 and 1.1.2.

- b. i. The affected furnace is subject to the New Source Performance Standards (NSPS) for Glass Manufacturing Plants, 40 CFR Part 60, Subpart CC.
- ii. Particulate matter emissions from the affected furnace shall not exceed 0.5 gram of particulate per kilogram of glass produced (1 lb/ton), as measured according to 40 CFR 60.293(e) [40 CFR 60.293(b) (1)].
- c. The Permittee shall not cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from the affected furnace [35 IAC 212.123(a)].
- d. The affected furnace is subject to 35 IAC 212.321(a), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c) [35 IAC 212.321(a)].
- e. The affected furnace is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere to exceed 2000 ppm.

1.1.4 Non-Applicability of Regulations of Concern

- a. The Permittee has addressed the applicability of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) to this project, to demonstrate that the project is not a major modification. The application indicates future emissions and increases from equipment as follows:

Equipment	Future Emissions ^a /Emissions Increases ^b (Tons/Year)					
	SO ₂	NO _x	VOM	CO	PM	PM ₁₀
Raw Materials Handling	---/---	---/---	---/---	---/---	2.2/0.1	2.2/0.1
Furnace	159.9 ^b /4.3	468.4/27.2	15.1/0.9	15.1/0.9	32.5/1.9	46.0/2.7
Glass Forming Machines	---/---	---/---	4.8/0.3	---/---	4.8/0.3	4.8/0.3
Hot End Treatment Hoods	---/---	---/---	5.0/0.3	---/---	5.0/0.3	5.0/0.3
Annealing Lehrs (New) ^c	---/---	4.8/4.8	0.3/0.3	4.0/4.0	0.4/0.4	0.4/0.4
Generator (New) ^c	0.4/0.4	7.4/7.4	0.2/0.2	1.6/1.6	0.2/0.2	0.2/0.2
Sum of Increases ^d	4.7	39.3	2.0	6.5	3.2	4.0

^a Except for new equipment and the SO₂ emissions for the glass furnace, future emissions are the "future

projected actual emissions", as defined by 40 CFR 52.21(b)(41).

- b Emissions increases determined from the differences between past actual emissions and future emissions. For this purpose, past actual emissions of PM, SO₂ and NO_x were less than the amount allowed by the previous permit 92020044 (See also Condition 3).
 - c Permitted emissions, as addressed by Conditions 1.1.6(a), 1.2.6 and 1.3.6.
 - d Total project increases, not including any contemporaneous emissions decreases.
- b. This permit is issued based on the affected furnace not being subject to 40 CFR Part 61, Subpart N, National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants, because the affected furnace does not use commercial arsenic as a raw material [40 CFR 61.160(a)].

1.1.1.5 Control Requirements and Work Practices

- a. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the affected furnace in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to 40 CFR 60.11(d).

1.1.6 Production and Emission Limitations

- a. Emissions of SO₂ from the affected furnace shall not exceed 26.7 tons/month and 159.9 tons/year. Compliance with the annual limit shall be determined from a running total of 12 months of data.

1.1.7 Testing Requirements

- a. i. The Permittee shall comply with the performance testing requirements of 40 CFR 60.8, which requires a performance test within 60 days after achieving the maximum production rate at which the affected furnace will be operated, but not later than 180 days after initial startup of the affected furnace.
- ii. In conducting the performance tests required in 40 CFR 60.8, the Permittee shall use as reference methods and procedures the test of emissions of particulate matter methods in appendix A of 40 CFR Part 60 or other methods and procedures as specified in 40 CFR Part 60 Subpart CC, except as provided in 40 CFR 60.8(b).

- iii. Pursuant to 40 CFR 60.293(c)(2), (3), and (4), the Permittee shall:
 - A. During the performance test required to be conducted by 40 CFR 60.8, conduct continuous opacity monitoring during each test run.
 - B. Calculate 6-minute opacity averages from 24 or more data points equally spaced over each 6-minute period during the test runs.
 - C. Determine, based on the 6-minute opacity averages, the opacity value corresponding to the 99 percent upper confidence level of a normal distribution of average opacity values.
- b. The Permittee shall have emission testing conducted for NO_x and SO₂ emissions of the furnace as necessary for certification of the monitoring systems required by Condition 1.1.8.

1.1.8 Monitoring Requirements

- a. i. The Permittee shall install, calibrate, maintain and operate continuous emissions monitoring systems for emissions of NO_x and SO₂ from the affected furnace, which monitors shall meet Performance Specification 2, Appendix B. These monitoring systems shall be operated in accordance with 40 CFR 60.7(c), 60.13, and Performance Specification 2, Appendix B, including associated recordkeeping and reporting requirements.
- ii. The Permittee shall install, calibrate, maintain and operate either a continuous emissions monitor for flow from the furnace (which shall meet Performance Specification 6) or natural gas firing rate and diluent (oxygen or carbon dioxide) in the exhaust from the furnace (Performance Specification 3) and the Quality Assurance Procedures in 40 CFR 60, Appendix F, Procedure 1
- b. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the affected furnace, pursuant to 40 CFR 60.293(c). This monitoring system shall be operated in accordance with 40 CFR 60.7(c) and 60.13.
- c. i. The Permittee shall maintain written operating procedures for these monitoring systems.

- ii. The Permittee shall maintain records and logs for the operating and maintenance of the monitoring systems in accordance with 40 CFR 60.7(f).

1.1.9 Recordkeeping Requirements

- a. For the affected furnace and the raw materials handling operation, glass forming machines and hot end treatment hoods, the Permittee shall keep the following records:
 - i. Before beginning actual construction of the project, the Permittee shall document and maintain a record of the following information [40 CFR 52.21(r)(6)(i)]:
 - A. A description of the project;
 - B. Identification of the emissions unit(s) whose emissions of a regulated PSD pollutant could be affected by the project; and
 - C. A description of the applicability test used to determine that the project is not a major modification for any regulated PSD pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.
 - ii. The Permittee shall keep records for the emissions of any regulated PSD pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in 40 CFR 52.21(r)(6)(i)(b) (See also Condition 1.1.9(a)(i)(B)) and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change [40 CFR 52.21(r)(6)(iii)].

Note: the recordkeeping requirements of Condition 1.1.9(a) do not apply to SO₂ emissions, which are limited by Condition 1.1.6(a).

- b. The Permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.7.
- c. For the affected furnace, the Permittee shall maintain records of the NO_x and SO₂ emissions on a monthly basis and annual basis, as determined by continuous monitoring in accordance with Condition 1.1.8 (tons/month and tons/year, SO₂ 12-month rolling average and NO_x calendar year).

1.1.10 Reporting Requirements

- a.
 - i. The Permittee shall comply with the applicable notification requirements of 40 CFR 60.7.
 - ii. For the purposes of periodic reporting for opacity required by 40 CFR 60.7(c), the Permittee shall report to the Illinois EPA as excess emissions all of the 6-minute periods during which the average opacity, as measured by the continuous monitoring system installed under 40 CFR 60.293(c)(1), exceeds the opacity value corresponding to the 99 percent upper confidence level determined under 40 CFR 60.293(c)(4).
- b. The Permittee shall submit semi-annual reports for the monitoring of NO_x and SO₂ emissions required by Condition 1.1.8 following the procedures of 40 CFR 60.7(c).
- c. The Permittee shall submit a report to the Illinois EPA and USEPA if the annual emissions, in tons per year, from the project identified in 40 CFR 52.21(r)(6)(i) (See also Condition 1.1.9(a)(i)), exceed the baseline actual emissions (as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c), by a significant amount (as defined in 40 CFR 52.21(b)(23) for that regulated PSD pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c). Such report shall be submitted to the Illinois EPA and USEPA within 60 days after the end of such year. The report shall contain the following [40 CFR 52.21(r)(6)(v)]:
 - i. The name, address and telephone number of the plant;
 - ii. The annual emissions as calculated pursuant to 40 CFR 52.21(r)(6)(iii); and
 - iii. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

Note: This reporting requirement does not apply to SO₂ emissions.

- d. The Permittee shall promptly notify the Illinois EPA of deviations of the affected furnace with the permit requirements. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

1.2 Unit: Annealing Lehrs

1.2.1 Description

After glass containers are manufactured from the molten glass, they pass through an annealing lehr. This process of reheating and gradually cooling the containers eliminates the stresses from the forming process, which would otherwise make the containers too fragile for use. Emissions are from natural gas combustion.

1.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Two New Annealing Lehrs (Replacement)	Glass Containers Are Treated With Heat	None

1.2.3 Applicable Provisions and Regulations

- a. The "affected units" for the purpose of these unit-specific conditions, are the annealing lehrs described in Conditions 1.1.1 and 1.1.2.
- b. The Permittee shall not cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from the affected units [35 IAC 212.123(a)].
- c. The affected units are subject to 35 IAC 212.321(a), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c) [35 IAC 212.321(a)].

1.2.4 Non-Applicability of Regulations of Concern

Non-applicability provisions are not developed for the affected units.

1.2.5 Control Requirements and Work Practices

Control requirements and work practices are not set for the affected units.

1.2.6 Production and Emission Limitations

- a. Emissions from the affected units (both units combined) shall not exceed the following limits.

<u>Pollutant</u>	<u>Emissions (Tons/Year)</u>
NO _x	4.8
VOM	0.3
CO	4.0
PM/PM ₁₀	0.4

- b. The maximum rated firing rate of each affected unit shall not exceed 5.5 mmBtu/hr.

1.2.7 Testing Requirements

Testing requirements are not set for the affected units.

1.2.8 Monitoring Requirements

Monitoring requirements are not set for the affected units.

1.2.9 Recordkeeping Requirements

- a. The Permittee shall maintain records of the following items for the affected units:
- i. A file showing documentation of the maximum rated firing rate of each affected unit (mmBtu/hr).
 - ii. A file showing the potential emissions from the affected units with supporting calculations and documentation (tons/year).

1.2.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of deviations of the affected units with the permit requirements. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

1.2.11 Procedures to Determine Emissions

- a. Emissions from the affected units shall be determined from standard emission factors for natural gas in fuel combustion equipment, such as the following, or emission factors developed from testing of the affected units:

<u>Pollutant</u>	<u>Emission Factor (Lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100

Factors are from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Tables 1.4-1 and 1.4-2 (dated 7/98).

1.3 Unit: Emergency Generator

1.3.1 Description

A diesel-fired emergency generator is being added to address plant electricity requirements.

1.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Emergency Generator (New)	Diesel-fired Electric Generator	None

1.3.3 Applicable Provisions and Regulations

- a. An "affected generator" for the purpose of these unit-specific conditions, is a generator described in Conditions 1.1.1 and 1.1.2.
- b. The Permittee shall not cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from the affected generator [35 IAC 212.123(a)].

1.3.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected generator not being subject to the requirements of 35 IAC 212.321, due to the nature of such units, a process weight rate can not be set so that such rules can not reasonably be applied.
- b. This permit is issued based on the affected generator not being subject to the NESHAP, 40 CFR Part 63 Subpart ZZZZ: Stationary Reciprocating Internal Combustion Engines, because the source is not a major source of hazardous air pollutants, as addressed by the source's CAAPP permit.

1.3.5 Control Requirements and Work Practices

Control requirements are not set for the affected generator.

1.3.6 Production and Emission Limitations

- a.
 - i. The maximum rated power output of the affected generator shall not exceed 1620 brake horsepower.
 - ii. The affected generator shall not operate more than 365 hours/year.
- b. Emissions from the affected generator shall not exceed the following limits.

Emissions

<u>Pollutant</u>	<u>(Tons/Year)</u>
SO ₂	0.4
NO _x	7.4
VOM	0.2
CO	1.6
PM/PM ₁₀	0.2

- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

1.3.7 Testing Requirements

Testing requirements are not set for the affected generator.

1.3.8 Monitoring Requirements

Monitoring requirements are not set for the affected generator.

1.3.9 Recordkeeping Requirements

- a. The Permittee shall maintain records of the following items for the affected generator:
- i. A file containing documentation for the maximum rated power output of the affected generator (horsepower).
 - ii. Hours of operation (hours/month).
 - iii. NO_x, CO, VOM, SO₂ and PM/PM₁₀ emissions from the affected generator with supporting calculations and documentation (tons/month and tons/year).

1.3.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of deviations of the affected generator with the permit requirements. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

1.3.11 Procedures to Determine Emissions

- a. Emissions from the affected generator shall be determined from standard emission factors for diesel in fuel combustion equipment, such as the following, or emission factors developed from testing of the affected generator:

<u>Pollutant</u>	<u>Emission Factors</u>
VOM	0.00064 lb/HP-hr
PM	0.0007 lb/HP-hr

SO ₂	0.61 gram/HP-hr
NO _x	11.3 grams/HP-hr
CO	0.0055 lb/HP-hr

VOM, PM/PM₁₀ and CO factors are from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Table 3.4-1 (dated 10/96). SO₂ and NO_x factors are vendor specified emission factors.

2. The affected new furnace and the emission units addressed by this construction permit may be operated under this permit until renewal of the CAAPP permit or a modification of the CAAPP permit is issued provided the Permittee submits a timely application to amend the current CAAPP permit to incorporate this project.
3. Upon initial startup of the affected furnace, the requirements of this permit supersede the requirements of Permit 92020044, which addresses the prior modification of the affected furnace. Until startup of the rebuilt furnace, the Permittee shall continue to comply with the provisions of that permit, which limits annual emissions of PM, SO₂ and NO_x to 54.2, 156.6 and 539 tons, respectively.

If you have any questions on this, please call Jason Schnepf at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:psj

cc: Region 2
Lotus Notes
CES